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HEAT PUMP UNITS KITS AND ACCESSORIES

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TEMPERATURE SWITCH REPLACEMENT KIT

INSTALLATION INSTRUCTION FOR OUTDOOR TEMPERATURE SWITCH REPLACEMENT KIT (56A87) USED WITH ALL HEAT PUMPS USED WITH SINGLE- OR TWO-STAGE ELECTRIC HEAT

WARNING

Improper installation, adjustment, alteration, service or maintenance can cause personal injury, loss of life, or damage to property.

Installation and service must be performed by a licensed professional installer (or equivalent) or a service agency.

WARNING

Physical contact with metal edges and corners while applying excessive force or rapid motion can result in personal injury. Be aware of, and use caution when working near these areas during installation or while servicing this equipment.

CAUTION

To prevent personal injury, or damage to panels, unit or structure, be sure to observe the following:

While installing or servicing this unit, carefully stow all removed panels out of the way, so that the panels will not cause injury to personnel, nor cause damage to objects or structures nearby, nor will the panels be subjected to damage (e.g., being bent or scratched).

While handling or stowing the panels, consider any weather conditions, especially windy conditions, that may cause panels to be blown around and damaged.

WARNING



Electric Shock Hazard. Can cause injury or death.

Line voltage is present at all components on units with single-pole contactors, even when unit is not in operation!

Unit may have multiple power supplies. Disconnect all remote electric power supplies before opening access panel.

Unit must be grounded in accordance with national and local codes.

Shipping and Packing List

Check parts for shipping damage; if any damage is found, immediately contact the last shipping carrier.

Package 1 of 1 contains the following:

- 1 - Temperature switch (part # A19ABC-24)
- 1 - Bag assembly containing:
 - 2 - Wire nuts
 - 2 - #8 screws
- 1 - Installation instructions

Application

Temperature switch replacement kit (56A87) is used to replace temperature switch 56A83 in all heat pumps used with single-stage and two-stage electric heat. This switch is used to delay auxiliary electric-heat operation until necessary. In heat pump applications, the outdoor thermostat keeps the load on the heat pump as long as possible.

IMPORTANT !

Electric heat must be energized during a heat pump defrost cycle to temper the indoor air. In heat pump applications, connect only a portion of the heating elements to the outdoor thermostat. In cases where all the heating elements are controlled by the outdoor thermostat, adjust the outdoor thermostat setpoint above the ambient temperature at which defrosting will occur.

The balance point is the outdoor temperature at which the structural heat loss exactly matches the heating capacity of the unit. Consider heat loss calculations and equipment size to determine the proper outdoor temperature switch setpoint.

Installation

WARNING

Before attempting to perform any service or maintenance, turn the electrical power to the unit OFF at the disconnect switch.

- 1 - Disconnect all power from unit.
- 2 - Locate the original 56A83 thermostat in the control box area of the outdoor unit. The thermostat may be installed in a mounting box or on a mounting plate.
- 3 - Mark the terminal numbers on the existing wires and disconnect the wires from the switch.
- 4 - Remove the screws that secure the mounting box or mounting plate and remove the original switch and mounting assembly.
- 5 - Remove the cover from the replacement switch.



- 6 - Set the temperature to match the original switch. The original switch is factory-set to close at 40° +/- 2°F on a temperature drop and open at 50° +/- 2°F on a temperature rise.
- 7 - Position the replacement switch near the control box in the same location as the original switch.
- 8 - Mark two new hole positions.
- 9 - Install new switch using field-supplied self-tapping screws.
- 10 - Connect existing wire from terminal 1 onto R (1) and from terminal 2 onto B (3) of the new control.
- 11 - Replace the cover on the switch.
- 12 - Route the temperature-sensing bulb alongside the low-voltage wiring to a location outside of the cabinet and away from direct sunlight.

Operation

The outdoor thermostat uses a temperature-sensing bulb to monitor the ambient temperature. When the ambient temperature drops below the outdoor thermostat (A19ABC-24) setpoint, the new thermostat closes the R to B terminals. This allows 24V power to the indoor unit electric heater section when there is a W1 demand from the room thermostat.

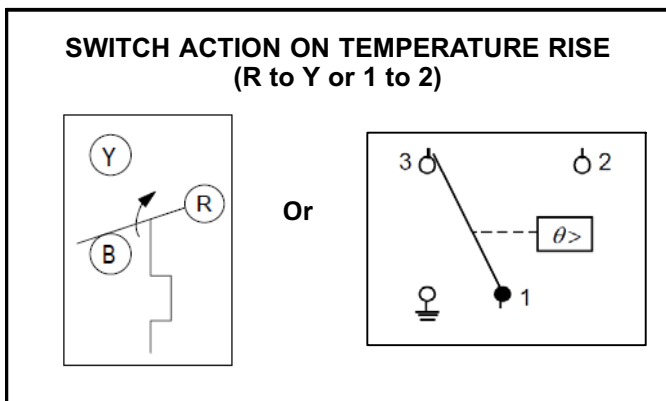
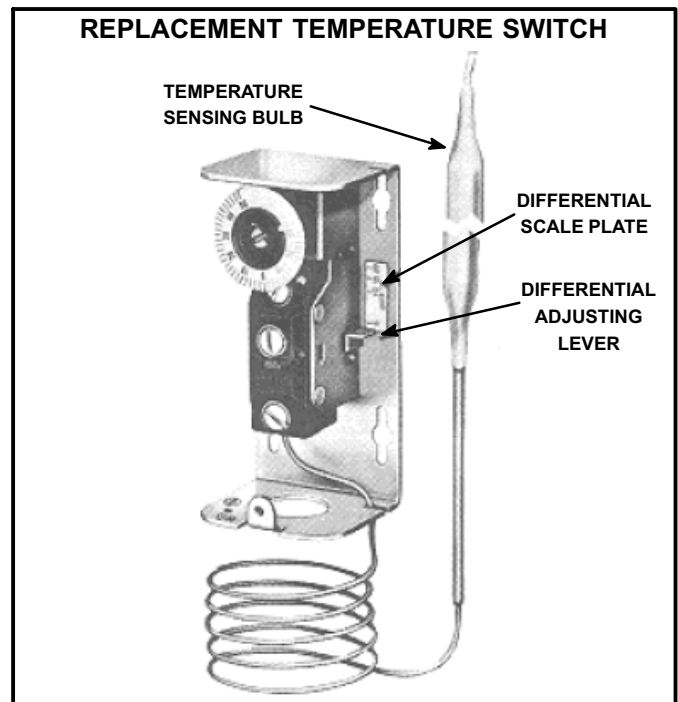


FIGURE 1

Adjustment

IMPORTANT: If the temperature-sensing bulb is located in the control box or compressor compartment, the ambient temperature sensed may be 10 to 15°F higher than the outdoor ambient. This temperature variation may be due to several factors: compressor run time, crankcase heater run time and direct sunlight on the control panel. Any of these conditions can interfere with the ability of the outdoor thermostat to maximize heat pump run time and minimize use of auxiliary heat.



Wiring

Refer to diagrams below for typical outdoor thermostat connections. Refer to heat pump installation instructions for remaining heat pump and indoor unit wiring connections.

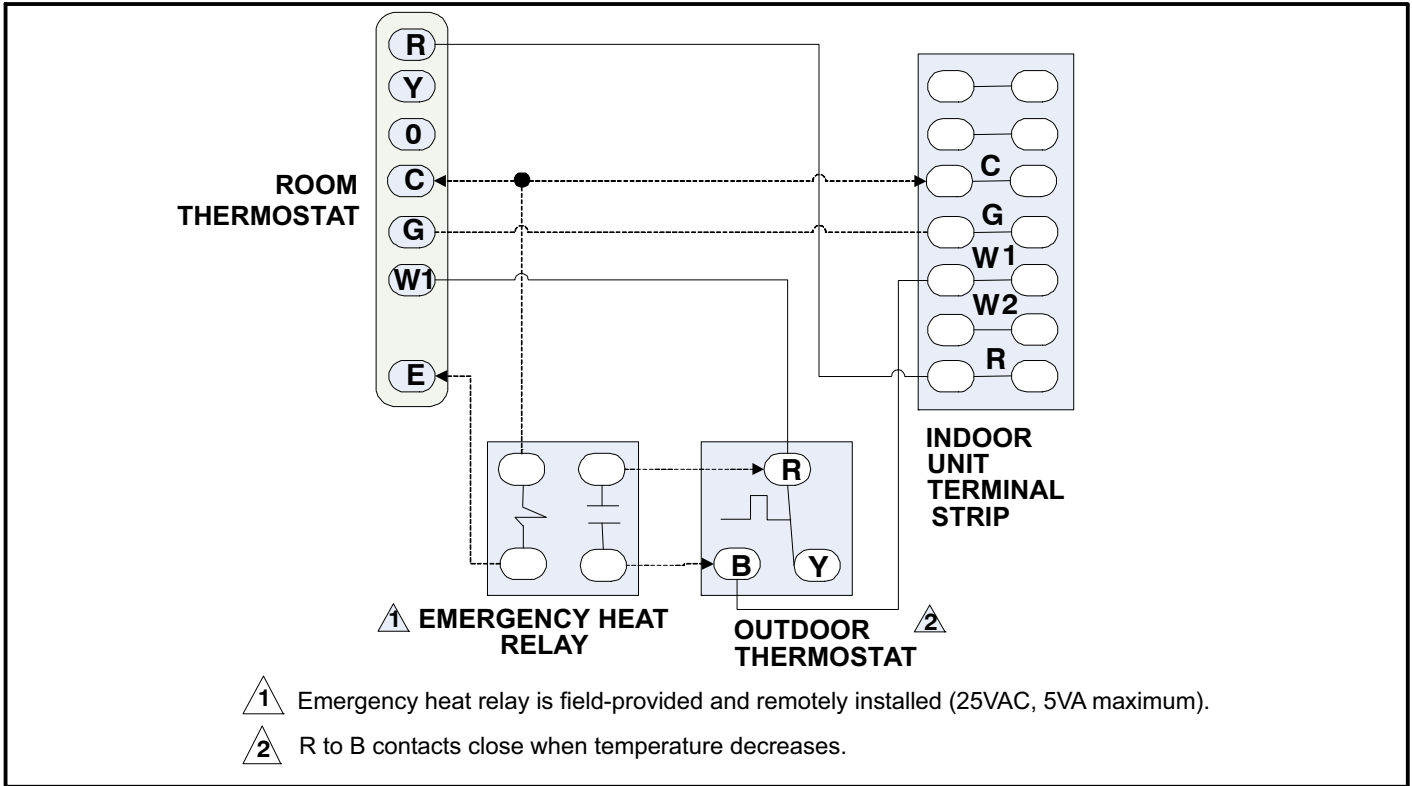


FIGURE 3. Heat Pump with Typical Single-Stage Electric Heat

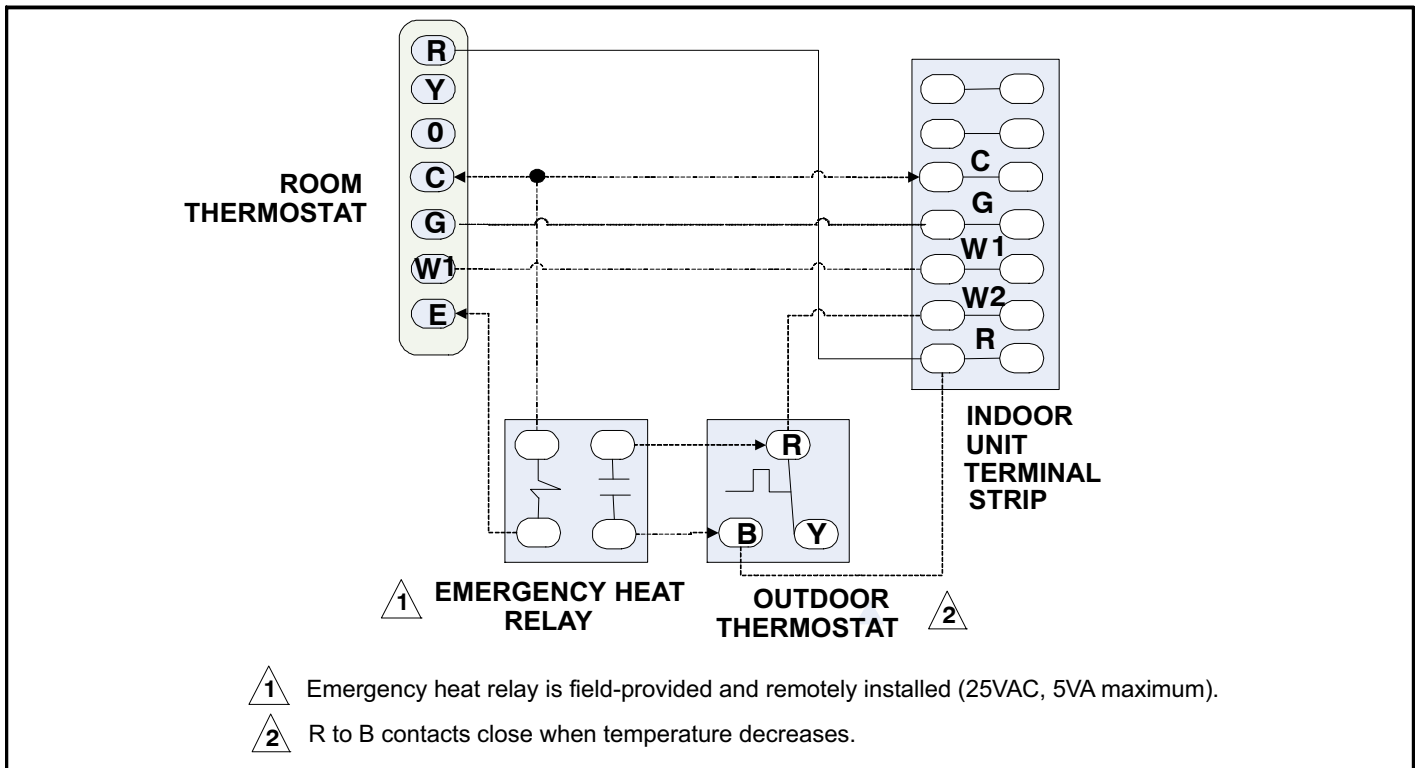


FIGURE 4. Heat Pump with Typical Two-Stage Electric Heat